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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,798	08/28/2003	Hirokazu Arai	AI 304	5608

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WASHINGTON, DC 20005

EXAMINER
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COSTALES, SHRUTI S

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/649,798

Applicant(s)

ARAI ET AL.

Examiner

Shruti S. Costales

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/28/03 & 4/16/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. As noted by the applicant in the information disclosure statements (IDS) filed on April 16, 2004, the IDS filed on April 7, 2004 failed to correctly identify the applicant's name. A corrected PTO-1449 was filed on April 16, 2004, wherein the references listed by the applicant on the PTO-1449 filed on April 7, 2004 are the same as the references listed on the PTO-1449 filed on April 16, 2004. Therefore, the Examiner has not considered the IDS filed on April 7, 2004.

The information disclosure statements submitted on August 28, 2003 and April 16, 2004 were filed in compliance with the provisions of 37 CFR § 1.97, accordingly, the aforementioned information disclosure statements have been considered by the Examiner.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference characters is not mentioned in the description: 11a shown in FIG. 1. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing

Art Unit: 1714

date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

In addition to Replacement Sheets containing the corrected drawing figure, applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the changes to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

### ***Specification***

3. The abstract of the disclosure is objected to because at line 5 of the abstract the word "Moths" seems to be misspelled and it is recommended that the applicant replace the word "Moths" with "Mohs". Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

Art Unit: 1714

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "A resin pulley formed of a resin composition having a phenol resin, an inorganic powder, a reinforcing fiber, and a lubricant".

5. The disclosure is objected to because of the following informalities:

- (i) The reference character "11a" shown in FIG. 1 has not been described in the specification. The applicant must either delete reference character 11a from FIG. 1 or

Art Unit: 1714

provide a description of said reference character in the specification. It is to be noted that no new matter may be added.

(ii) The word "CLAIMES" is misspelled at the top of page 29. It is recommended that the applicant replace "CLAIMES" with "CLAIMS". Further, the applicant is referred to MPEP § 608.01(m), wherein it is provided that while there is no set statutory form for claims, the present Office practice is to insist that each claim must be the object of a sentence starting with "I (or we) claim," "The invention claimed is" (or the equivalent).

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Asai et al. (U.S. Patent Number 6,716,907) in view of the evidence set forth by the *Handbook of Fillers* by George Wypych (2000) and Saeki (U.S. Patent Number 6,336,025).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

Art Unit: 1714

either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Asai discloses a phenolic molding composition for forming a pulley (Col. 2, lines 14-15). The molding composition includes 100 parts by weight of a resol-based phenolic resin, 40 to 100 parts by weight of an inorganic fiber, 30 to 90 parts by weight of a natural silica powder, and 1 to 15 parts of weight of a rubber component, wherein the inorganic fiber includes 50% or more by weight of glass fiber (Col. 1, lines 62-67 and Col. 2, lines 1-10). The corresponding weight percent ranges of each of the components of the molding composition may be calculated by adding all the components together and dividing the amount of each component in parts by weight by the total weight obtained. The resulting weight percentages are as follows: 32.8% - 58.5% of the phenolic resin, 23.4% - 32.8% of the inorganic fiber, 17.5% - 29.5% of the natural silica powder, and 0.6% - 4.9% of the rubber component.

It is to be noted that according to the Handbook of Fillers, most grades of silicas have a Mohs hardness in the range of 6-7 (see page 287 of the *Handbook of Fillers*). Further, Asai discloses that the phenolic resin has an average molecular weight of from 600 to 800 (Col. 2, lines 18-20). Moreover, Asai discloses that the natural silica powder has an average particle diameter of from 20 to 150  $\mu\text{m}$ , wherein the shape of the natural silica powder is classified into a pulverized type and a round grain type (Col. 3, lines 4-9). The round grain type of the silica powder implies sphericity of the silica powder grain.

With respect to the lubricant, although Asai does not explicitly disclose adding a lubricant, Asai discloses adding silicone rubber to the molding composition (Col. 2, lines 35-38). It is to be noted that silicone rubber is a known lubricant as evidenced by Saeki which discloses lubricants such as PTFE, silicone compounds such as silicone particulate resin, silicone rubber, etc., (Col. 17, lines 38-45 of Saeki). Therefore, Asai's rubber component, namely the silicone rubber, functions as a lubricant in view of the evidence set forth by Saeki.

In light of the above discussion, it is clear that the presently cited claims are anticipated.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.



Art Unit: 1714

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asai in view of the *Handbook of Fillers* and Saeki.

The discussion above regarding Asai, the *Handbook of Fillers*, and Saeki in paragraph 7 is herein incorporated by reference.

Although Asai does not explicitly disclose a fluoro-resin powder, Saeki discloses lubricants including fluoroelastomer, fluororubber, PTFE, PVDF, ETFE and tetrafluoroethylene-perfluoroalkyl vinyl ether copolymers (PFA), silicone compounds such as silicone particulate resin, silicone rubber, silicone elastomer, etc., polyethylene (PE), polypropylene (PP), polystyrene (PS), epoxy resin, etc., and particularly fluorine containing particulate resin (Col. 17, lines 38-45 of Saeki), wherein the fluorine containing particulate resin corresponds to the fluoro-resin powder of the presently cited claims. It would have been obvious to one skilled in the art to use the lubricants of Saeki interchangeably including the fluorine containing particulate resin instead of rubber in Asai's pulley because the lubricant imparts a flexible (elastic) property providing a tight contact (Col. 17, lines 1-3) between the pulley surface and a secondary surface contacting the pulley resulting in increased pulley efficiency, thereby obtaining the invention as set forth in the presently cited claim.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shruti S. Costales whose telephone number is (571)

Art Unit: 1714

272-8389. The examiner can normally be reached on Monday - Friday, 7:00 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

SSC  
Shruti S. Costales  
June 28, 2005

*Vasu Jagannathan*  
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